



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/954,835

Filing Date: September 18, 2001

Applicant: Monica A. Jacinto et al.

Group Art Unit: 1742

Examiner: Andrew E. Wessman

Title: BURN RESISTANT AND HIGH TENSILE STRENGTH
METAL ALLOYS

Attorney Docket: 7784-000255

RECEIVED
MAY 07 2003
GROUP 1700

6

Commissioner of Patents and Trademarks
Washington, D.C. 20231

AFFIDAVIT TRAVERSING REJECTIONS UNDER § 37 C.F.R. 1.132

[0001] I, Monica Jacinto, have received a B.S., Metallurgical Engineering in 1988 and a M.S., Material Science in 1997 and have been working and studying in the field of metallurgical arts for at least 15 years. I have been working at The Boeing Company for approximately 8 years in the burn resistant metallurgy and fabrication fields.

[0002] In rocket engine design and materials fields there is a continual need to improve both the strength and burn resistant of the materials from which the rocket engines are fabricated. For the years that I have worked with The Boeing Company, there are long felt and continuing needs for improved burn resistance in the metals from which rocket engine components are fabricated.

BEST AVAILABLE COPY

[0003] My colleagues and I were not aware, until the alloys of my invention, as claimed in the presently pending application, of materials that would provide the burn resistance and improved strength as provided by the claimed compositions.

[0004] The claimed compositions of the alloy include a substantially high burn resistance. The inclusion of a high level of gamma prime formers, such as aluminum and titanium, decrease burn resistance.

[0005] Gamma prime formers comprising more than about 10 percent by weight of an alloy including less than 65 weight percent nickel decrease burn resistance to unacceptable levels. Gamma prime formers, however, also increase strength. The claimed alloy is a discovered balance between a selected burn resistance and a selected strength.

[0006] Molybdenum, as a component of a metal composition also decreases burn resistance.

[0007] U.S. Patent No. 5,120,373 to Miller et al. discloses a composition that is described to be a derivative of Waspaloy®. As described in the Miller et al. reference, the composition and the method described therein increases the gamma prime formers in the metal composition above those found in Waspaloy®. As described in the presently pending application, Waspaloy® does not include the appropriate burn resistance. Moreover, increased gamma prime formers decrease burn resistance. Therefore, the metal of Miller et al. would have decreased burn resistance compared to Waspaloy® which, as disclosed in the presently pending application, includes a burn resistance less than the presently claimed invention.

[0008] I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Dated: 25 April 2003

By: 
Monica A. Jacinto

BEST AVAILABLE COPY